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A VISIT TO CHINA'S FIRST DOMESTIC MADE FIGHTER FLIGHT
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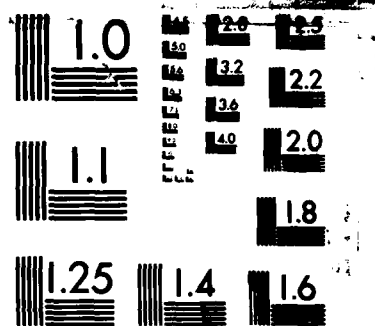
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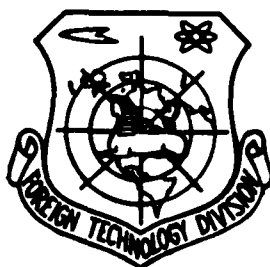
FOREIGN TECHNOLOGY DIVISION



A VISIT TO CHINA'S FIRST DOMESTIC MADE FIGHTER FLIGHT SIMULATOR

by

Ri Xin



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HUMAN TRANSLATION

FTD-ID(RS)T-0884-85

6 May 1986

MICROFICHE NR: FTD-86-C-001789

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FLIGHT SIMULATOR

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English pages: 3

Source: Hangkong Zhishi, Nr. 1, 1984, pp. 4-5

Country of origin: China

Translated by: Randy Dorsey

Requester: FTD/TQTM

Approved for public release; Distribution unlimited.

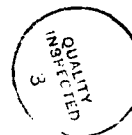
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WPAFB, OHIO.

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A VISIT TO CHINA'S FIRST DOMESTIC MADE FIGHTER FLIGHT SIMULATOR

Ri Xin

In October of last year, China's first domestic made fighter flight simulator underwent official state evaluation and was put into service with the Air Force.

This writer made a visit to the flight simulator facility by a comrade from the simulator office. The scientific and technical achievements which have been attained jointly by the Beijing College of Aeronautics, the Dawn Electrical Machinery Plant and the Beijing Precision Machinery Laboratory and the level of technology attained by the flight simulator left a deep impression.

A 5-MINUTE "AERIAL EXCURSION"

The flight simulator is made up primarily of three components: the computer system installed in the computer room, the fuselage room and the scenery viewing room; the movable simulator cockpit; and the scenery system. The fuselage room is "center stage" of the entire simulator. The drill and instruction of flight students and the flight training of aircrews is all done here. (Translation, China, Chinese)

Entering the fuselage room, the first thing that meets the eye is a huge thing suspended in mid air which looks like a movable house. This is the room, the movable simulator cockpit, in which the pilots work. To call it "mobile", it is certainly fittingly named. Since it is controlled by means of a kinematic system, this cockpit can carry out three-degrees-of-freedom movements of ascent and descent, pitching, and rolling.

On the left side of the fuselage room there is a control station. The control station has not only the same instruments as in the cockpit, but also a video monitor which displays the scenery seen by the pilot. The station also has many rows of buttons. The flight instructor can train, direct and examine the student via the control station.

In order to allow a clearer understanding of the operation of the simulator the accompanying comrade led me into the mobile simulator cockpit to witness a flight demonstration of a landing flight path which was just like the real thing. When in operation, above, below, right, left, and behind are all dim. In the center is the cockpit of a domestic made fighter and in it sits a pilot. The entire view of an airfield is displayed on the screen at the front of the cockpit; dark blue sky, wide runway stretching out ahead, airport buildings and its other ground facilities.

Suddenly the accompanying comrade said to me, "Attention, please. The aircraft is about to take off." Shortly, I heard the roar of the engine(s) starting. Then the aircraft taxied forward and quickly streaked down the runway. We felt our bodies tilt back slightly and we realized that the aircraft had lifted off. Then the aircraft climbed upward, and the view before us became a vast expanse of blue sky.

"Aircraft is beginning a turn". We looked down at the slanted crisscrossed earth and we can vaguely distinguish railroad tracks, rivers, and villages, forming a beautiful brocade picture of the earth.

"Aircraft is beginning descent." The airfield appeared in the distance ahead and below. The runways and taxiways came into view. The aircraft lined up with the runway, slowly dropping, and we felt only a slight jolt and the sound of the gear touching down came to us. The aircraft had "landed" safely.

I looked at my wrist watch. The entire flight had taken only five minutes. However, I had soared with the pilot through the vast blue sky, and had taken a true-to-life "aerial excursion".

The accompanying comrade explained the operating principles of the mobile cockpit. The scenery ahead is brought in by the scenery viewing system and projected on a large screen by a projector, and the sound emanates from megaphones (sic) in the rear of the cockpit (under the control of the computer). The layout and shape of the pilots compartment is exactly the same as in the domestic made fighter. The pilot is able to experience visual, tactile and aural sensations, as well as the sensation of acceleration, similar to that of the real aircraft. The pilot not only can perform basic take off and landing flights, but can also make flights involving several dozen subjects, such as, flight through clouds, night flights, flight under various weather conditions, as well as, the correcting of malfunctions.

THE SECRET OF THE "ARTIFICIAL SCENERY"

(General description of the "scenery model board" in the "scenery viewing room").

THE "NERVE CENTER" WHICH OPERATES ALL THE EQUIPMENT

(A general description of the computer system which controls and operates the simulator).

TRANSLATOR NOTE: The last two sections were not translated after coordination with the requestor.

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